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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/767,154	01/29/2004	Delbert Lester Elliott	4670-237/2003.0365.02	4629

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EXAMINER	
MORRISON, THOMAS A	

ART UNIT	PAPER NUMBER
3653	

DATE MAILED: 08/09/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/767,154	ELLIOTT ET AL.	
	Examiner	Art Unit	
	Thomas A. Morrison	3653	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *29 January 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *29 January 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *01/29/2004*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

1. Claims 1-10, 12-18 and 20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 1, this claim recites "a speed differential" in line 9. It is unclear what speed differential is claimed. Is this a speed differential between the speeds of the first and second rollers?

Claim 2 recites "the second roller" in line 1. There is insufficient antecedent basis for this limitation in the claim.

Claim 2 recites "the first roller" in line 2. There is insufficient antecedent basis for this limitation in the claim.

Regarding claim 10, it is unclear if the recited single-contact roll and the recited multi-contact roll are the same or different from the previously recited first and second rolls, respectively, in claim 1.

Regarding claims 10, 12, 13, 14 and 20, it is unclear what is meant by, "a multi-contact roll".

Regarding claims 10, 12, 13 and 20, it is unclear what is meant by, "a single-contact roll".

Regarding claim 12, this claim recites "a speed differential" in line 9. It is unclear what speed differential is claimed. Is this a speed differential between the speeds of the first and second rollers?

Regarding claim 15, it is unclear if the recited "first roll speed" is the speed of the first roll or the speed of some other roll. One possibility is to amend this claim to recite "a speed of the first roll", rather than "a first roll speed".

Regarding claims 15 and 17, it is unclear if the recited "second roll speed" is the speed of the second roll or the speed of some other roll. One possibility is to amend these claims to recite "a speed of the second roll", rather than "a second roll speed".

Regarding claim 18, it is unclear if the recited single-contact roll and the recited multi-contact roll are the same or different from the previously recited first and second rolls, respectively, in claim 15.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-6, 8-10 and 12-14 are rejected under 35 U.S.C. 102(b) as being anticipated by Japanese Publication No. 2002-284399.

Regarding claim 1, Figs. 1-10 and the computer generated English translation (hereinafter "**CGET**") disclose a method of aligning a media sheet moving along a media path, the method comprising the steps of:

determining at least one physical characteristic of the media sheet (CGET at paragraph [0017]);

determining skew that will result as the media sheet moves through the media path based on the at least one physical characteristic (CGET at paragraphs [0018]-[0019])(i.e., determine amount of skew that must be corrected by loop formation registration or amount that can be corrected by active registration, based on paper thickness);

moving the media sheet along a predetermined distance of the media path (Fig. 5);

while the media sheet is in contact with first and second rolls (142a and 142b) spaced along the media path, adjusting a speed differential based on the at least one physical characteristic of the media sheet (i.e., using active registration to control roller speeds when paper is thin); and

moving the media sheet along the media path through the first and second rolls (142a and 142b) at the speed differential to remove the skew.

Regarding claim 2, this Japanese publication discloses moving the second roller (142b) at a first speed when the media sheet is in contact with both the first roller (142a) and the second roller (142b), and adjusting the second roller (142b) to a second speed different than the first speed once the media sheet has moved beyond contact with the first roller (142a). CGET at paragraphs [0009] – [0010] discloses operating rollers at different speeds. The scenario of claim 2 can occur once a first sheet is conveyed past the first and second rollers and the next fed sheet is conveyed to the first and second rollers for a different amount of skew correction than that of the first sheet.

Regarding claim 3, (CGET at paragraph [0018]) discloses that the step of determining at least one physical characteristic comprises receiving information from an input.

Regarding claim 4, (CGET at paragraph [0048]) discloses displaying a prompt on a display requesting a user to input the at least one physical characteristic.

Regarding claim 5, (CGET at numbered paragraph [0048]) discloses receiving the at least one physical characteristic through a pc-based driver utility.

Regarding claims 6 and 8, (CGET at paragraph [0042]) discloses that the step of determining at least one physical characteristic comprises moving the media sheet through a sensor (141) along the media path that determines the at least one physical characteristic (thickness).

Regarding claim 9, (CGET at paragraph [0042]) discloses that the step of determining the at least one physical characteristic of the media sheet comprises determining the texture of the media sheet. See e.g., OHP form detection sensor 143.

Regarding claim 10, as best understood, Fig. 5 shows applying the speed differential as the media sheet is moving through a single-contact roll (e.g., upper roller 142a) and a multi-contact roll (upper and lower rollers 142b, as explained in CGET at paragraph [0070]).

Regarding claim 12, Figs. 1-10 and the computer generated English translation (hereinafter "**CGET**") disclose a method of aligning a media sheet moving through a media path, the method comprising the steps of:

determining at least one physical characteristic of the media sheet (CGET at paragraph [0017]);

determining a skew amount that will result as the media sheet moves through the media path based on the at least one physical characteristic (CGET at paragraphs [0018]-[0019])(i.e., determine amount of skew that must be corrected by loop formation registration or amount that can be corrected by active registration, based on paper thickness);

moving the media sheet along a predetermined distance of the media path (Fig. 5);

while the media sheet is in contact with a single-contact roll (e.g., upper roller 142a) and a multi-contact roll (upper and lower rollers 142b, as explained in CGET at paragraph [0070]), adjusting a speed differential based on the at least one physical characteristic of the media sheet (i.e., using active registration to control roller speeds when paper is thin); and

moving the media sheet along the media path through the single-contact roll (e.g., upper roller 142a) and a multi-contact roll (upper and lower rollers 142b, as explained in CGET at paragraph [0070]) at the speed differential and removing the skew amount.

Regarding claim 13, Fig. 5 and CGET at paragraph [0070] disclose moving the media sheet through the multi-contact roll (upper and lower rollers 142b) and then the single-contact roll (e.g., upper roller 142a). This happens when the sheet arrives skewed to the left as shown in Fig. 5.

Regarding claim 14, Fig. 5 and CGET at paragraph [0070] disclose contacting the media sheet at two contact points by the multi-contact roll (upper and lower rollers 142b).

3. Claims 1-3, 5-7 and 9-20, as best understood, are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent No. 6,920,307 (Howe).

Regarding claim 1, Figs.1-7 disclose a method of aligning a media sheet moving along a media path (Fig. 2), the method comprising the steps of:

determining at least one physical characteristic of the media sheet (see e.g., column 10, lines 62-67 and column 11, lines 7-10);

determining skew that will result as the media sheet moves through the media path based on the at least one physical characteristic (see e.g., column 9, line 50 – column 10, line 32);

moving the media sheet along a predetermined distance of the media path (Fig. 2);

while the media sheet is in contact with first and second rolls (22 and 24 in Fig. 1) spaced along the media path, adjusting a speed differential based on the at least one physical characteristic of the media sheet (see e.g., column 7, line 42 – column 8, line 61); and

moving the media sheet along the media path through the first and second rolls (22 and 24 in Fig. 1) at the speed differential to remove the skew.

Regarding claim 2, this patent discloses moving the second roller (24) at a first speed when the media sheet is in contact with both the first roller (22) and the second roller (24), and adjusting the second roller (24) to a second speed different than the first speed once the media sheet has moved beyond contact with the first roller (22). The scenario of claim 2 can occur once a first sheet is conveyed past the first and second rollers and the next fed sheet is conveyed to the first and second rollers for a different amount of skew correction than that of the first sheet.

Regarding claim 3, column 11, lines 8-10) disclose that the step of determining at least one physical characteristic comprises receiving information from an input.

Regarding claim 5, column 14, lines 28-31 disclose receiving the at least one physical characteristic through a pc-based driver utility.

Regarding claim 6, column 11, lines 7-16 and Fig. 3 disclose that the step of determining at least one physical characteristic comprises moving the media sheet through a sensor along the media path that determines the at least one physical characteristic.

Regarding claim 7, column 9, lines 26-65 disclose that the step of determining at least one physical characteristic of the media sheet comprises determining a weight of the media sheet.

Regarding claim 9, column 9, lines 44-46 disclose that the step of determining the at least one physical characteristic of the media sheet comprises determining the texture (e.g., coated) of the media sheet.

Regarding claim 10, Fig. 1 discloses applying the speed differential as the media sheet is moving through a single-contact roll (upper element 22) and a multi-contact roll (upper element 24 and lower element (near 50)).

Regarding claim 11, Figs. 1-10 disclose a method of aligning a media sheet moving along a media path, the method comprising the steps of:

determining at least one physical characteristic of the media sheet (see e.g., column 10, lines 62-67 and column 11, lines 7-10);

determining an expected amount of misalignment of the media sheet from proper alignment at a predetermined point along the media path based on the at least one physical characteristic (see e.g., column 9, line 50 – column 10, line 32);

storing the amount of misalignment in a controller (see e.g., column 9, line 50 – column 10, line 32);

introducing the media sheet into the media path (Fig. 1);

moving the media sheet along the media path (Fig. 2);

once the media sheet reaches the predetermined point, automatically moving the media sheet by the amount of misalignment (i.e., correcting skew at registration device shown in Fig. 1).

Regarding claim 12, Figs.1-10 disclose a method of aligning a media sheet moving through a media path, the method comprising the steps of:

determining at least one physical characteristic of the media sheet (see e.g., column 10, lines 62-67 and column 11, lines 7-10);

determining a skew amount that will result as the media sheet moves through the media path based on the at least one physical characteristic (see e.g., column 9, line 50 – column 10, line 32);

moving the media sheet along a predetermined distance of the media path (Fig. 2);

while the media sheet is in contact with a single-contact roll (22) and a multi-contact roll (upper element 24 and lower element (near 50)), adjusting a speed differential based on the at least one physical characteristic of the media sheet (see e.g., column 7, line 42 – column 8, line 61); and

moving the media sheet along the media path through the single-contact roll (22) and the multi-contact roll (upper element 24 and lower element (near 50)) at the speed differential and removing the skew amount.

Regarding claim 13, Fig. 1 discloses moving the media sheet through the multi-contact roll (upper element 24 and lower element (near 50)) and then the single-contact roll (22). This can happen when the sheet is skewed and a portion of the front edge of the sheet enters the multi-contact roll before the front edge enters the single-contact roll.

Regarding claim 14, Fig. 1 shows contacting the media sheet at two contact points (upper element 24 and lower element (near 50) by the multi-contact roll.

Regarding claim 15, Figs. 1-10 disclose a method of aligning a media sheet moving through a media path, the method comprising the steps of:

determining at least one physical characteristic of the media sheet (see e.g., column 10, lines 62-67 and column 11, lines 7-10);

determining a skew amount that will result as the media sheet moves through the media path based on the at least one physical characteristic (see e.g., column 9, line 50 – column 10, line 32);

moving the media sheet along a predetermined distance of the media path to be in simultaneous contact with a first roll (22) and a second roll (24);

during the simultaneous contact, adjusting a first roll speed to a predetermined percentage of a second roll speed, with the predetermined percentage based on the at least one physical characteristic and the skew amount (see e.g., column 7, line 36 –

column 8, line 61)(i.e., uses correction factors based on physical characteristics of sheets and skew sensors); and

moving the media sheet along the media path by contact with the first roll (22) and the second roll (24) with the first roll (22) and second roll (24) rotating at different speeds. See e.g., column 6, line 65 – column 7, line 3.

Regarding claim 16, Fig. 1 shows removing the skew amount while the media sheet is still in the simultaneous contact with the first roll (22) and the second roll (24).

Regarding claim 17, Fig. 1 shows after the media sheet moves beyond the first roll (22) and while still in contact with the second roll (24), adjusting the second roll speed. For example, the leading edge of the sheet is beyond the first roll (22) and the sheet is still in contact with the second roll (24) during skew adjustment.

Regarding claim 18, Figs. disclose the simultaneous contact occurring when the media sheet is in contact with a single-contact roll (22) and a multi-contact roll (upper element 24 and lower element (near 50)).

Regarding claim 19, Figs. 1-10 disclose a method of aligning a media sheet moving along a media path, the method comprising the steps of:

determining at least one physical characteristic of the media sheet (see e.g., column 10, lines 62-67 and column 11, lines 7-10);

determining an amount of skew resulting from moving the media sheet into a duplex path based on the at least one physical characteristic (see e.g., Fig. 2 and column 9, line 50 – column 10, line 32);

forming an image on a first side of the media sheet (at 25 in Fig. 2);

reversing a direction of the media sheet and moving the media sheet into the duplex path (Fig. 2);

while the media sheet is in simultaneous contact between a first roll (22) and a second roll (24), rotating the first roll (22) at a first speed and rotating the second roll (24) at a second speed with the difference between the first speed and the second speed based on the at least one physical characteristic of the media sheet (see e.g., column 7, line 36 – column 8, line 61)(i.e., uses correction factors based on physical characteristics of sheets); and

moving the media sheet along the duplex path (65) while in contact with the first roll (22) and the second roll (24) and removing the amount of skew.

Regarding claim 20, Figs. 1-10 disclose a method of aligning a media sheet moving along a media path, the method comprising the steps of:

determining at least one physical characteristic of the media sheet (see e.g., column 10, lines 62-67 and column 11, lines 7-10);

determining an amount of skew resulting from moving the media sheet into a duplex path based on the at least one physical characteristic (see e.g., Fig. 2 and column 9, line 50 – column 10, line 32);

forming an image on a first side of the media sheet (at 25 in Fig. 2);

reversing a direction of the media sheet and moving the media sheet along the duplex path (Fig. 2);

while the media sheet is in simultaneous contact between a first multi-contact roll (upper element 24 and lower element (near 50)) and a second single-contact roll (22),

adjusting a first speed of the first multi-contact roll (upper element 24 and lower element (near 50)) to be different than a second speed of the second single-contact roll (22); and

moving the media sheet along the duplex path (Fig. 2) while in contact with the first multi-contact roll (upper element 24 and lower element (near 50)) rotating at the first speed and the second single-contact roll (22) rotating at the second speed and removing the amount of skew.

Conclusion

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thomas A. Morrison whose telephone number is (571) 272-7221. The examiner can normally be reached on M-F, 8am - 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Mackey can be reached on (571) 272-6916. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

08/05/2006

PATRICK MACKEY
PRIMARY EXAMINER